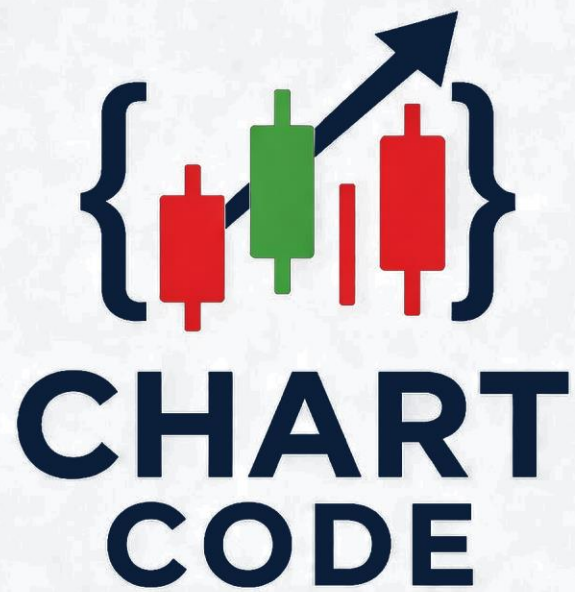




DECODE THE MARKET CODE



Deepak Kevadia

Founder & Chief Mentor, Chart Code

BSE & NISM Certified

chartcode.in

Moving Averages

The moving average is the single most widely used tool in all of technical analysis — simple enough for a beginner's first chart, yet powerful enough that professional funds build entire strategies around it.

1. Introduction — What Is a Moving Average?

A moving average smooths out day-to-day price noise by calculating the average price over a set number of recent periods, and plotting that average as a single, continuously updating line on the chart. As each new period completes, the oldest data point drops off and the newest one is added — the average 'moves' forward in time, always reflecting the most recent window of data.

Because it filters out short-term noise, a moving average makes the underlying trend direction far easier to see at a glance than raw, choppy price action alone.

KEY

A moving average is a lagging indicator — it is built entirely from past prices, so it will always trail behind the current price to some degree. This is a deliberate trade-off: smoothing out noise necessarily means reacting a little more slowly to the very latest price changes.

This chapter covers the two main types of moving averages, how to use them to identify trend direction and act as dynamic support/resistance, crossover signals like the Golden Cross and Death Cross, and how combining multiple moving averages into a 'ribbon' reveals trend strength at a glance.

2. Simple Moving Average (SMA) vs Exponential Moving Average (EMA)

There are two moving average types you will encounter on virtually every charting platform, and the difference between them comes down to how much weight is given to more recent prices.

SMA vs EMA — EMA Reacts Faster to Recent Price Changes

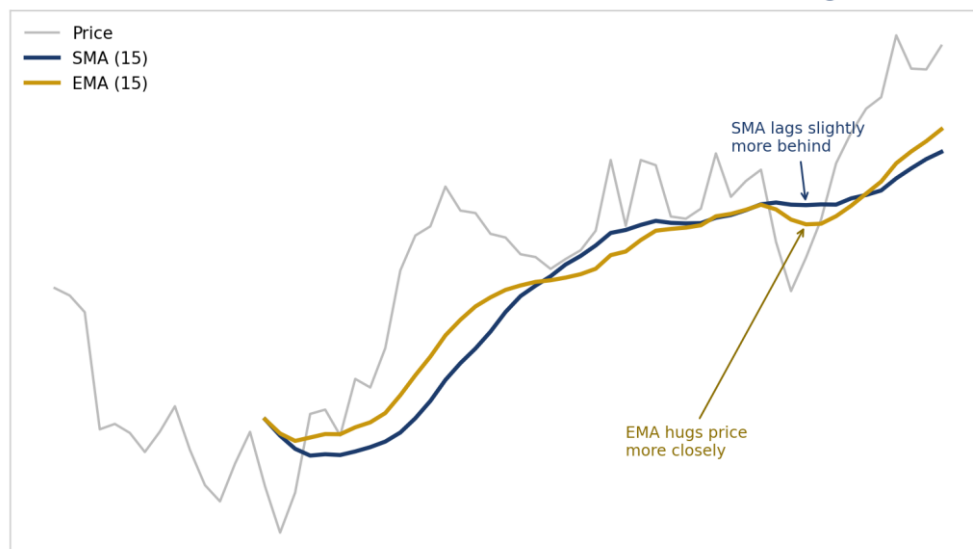


Fig 2.1 — SMA vs EMA on the same price data: the EMA tracks recent price changes more closely.

- **Simple Moving Average (SMA):** Calculated by giving every price in the lookback period equal weight — simply adding them up and dividing by the number of periods. This makes the SMA smoother, but slightly slower to react to sudden recent changes.
- **Exponential Moving Average (EMA):** Calculated by giving more weight to recent prices than older ones, making the EMA react more quickly to the latest price action. This is why the MACD indicator, covered earlier in this course, is built from EMAs rather than SMAs.

TIP

Neither type is universally 'better' — the SMA's extra smoothness can filter out more false signals in choppy markets, while the EMA's faster response can help you react sooner to a genuine, fresh trend change. Many traders use both together, depending on the specific purpose.

3. Moving Averages for Trend Identification

The simplest and most common use of a moving average is reading the basic trend at a glance:

- Price above a rising moving average: Generally considered an uptrend.
- Price below a falling moving average: Generally considered a downtrend.
- Price chopping around a flat, sideways moving average: Generally considered a range-bound, trendless market.

The specific moving average period you choose changes how sensitive this trend reading is — a 20-period MA reflects a shorter-term trend, while a 200-period MA reflects the dominant, longer-term trend most institutional investors watch closely.

4. Moving Averages as Dynamic Support & Resistance

As covered in our Support & Resistance masterclass, a moving average acts as a dynamic, continuously shifting support or resistance line. In a healthy uptrend, price will often pull back and find support almost exactly at a widely watched moving average — commonly the 20, 50, or 200-period — before continuing higher.

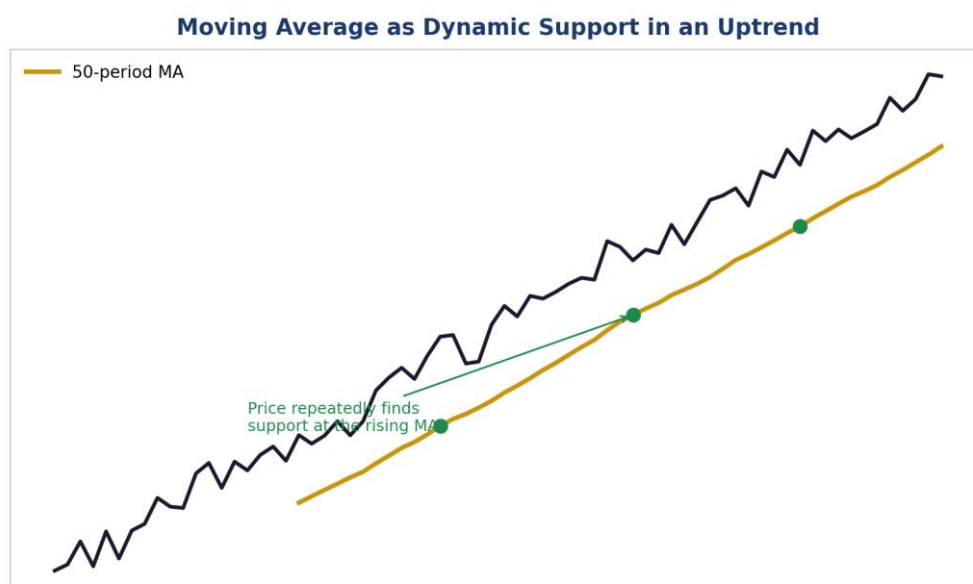


Fig 4.1 — Price repeatedly finding support at a rising 50-period moving average during an uptrend.

□ Concrete Example

Suppose Reliance Industries is in a steady uptrend, and each time it pulls back toward its rising 50-day moving average, buyers consistently step in and the stock bounces higher again. A trader watching this pattern might use pullbacks to the 50-day MA as a recurring, lower-risk entry opportunity within the larger uptrend, rather than chasing the stock at new highs.

5. Moving Average Crossovers

A crossover occurs when a faster (shorter-period) moving average crosses above or below a slower (longer-period) moving average, often used as a signal that the underlying trend may be shifting.

5.1 Golden Cross and Death Cross

The most widely followed crossover in all of technical analysis involves the 50-period and 200-period moving averages, typically on the daily chart.



Fig 5.1 — A Golden Cross (50-MA crosses above 200-MA) and a Death Cross (50-MA crosses below 200-MA).

- Golden Cross: The 50-period MA crosses above the 200-period MA, widely interpreted as a bullish, longer-term trend change signal.
- Death Cross: The 50-period MA crosses below the 200-period MA, widely interpreted as a bearish, longer-term trend change signal.

CAUTION

Because both the 50-MA and 200-MA are lagging indicators built from many periods of past data, a Golden Cross or Death Cross typically confirms a trend change well after it has already begun — this signal is useful for confirming a longer-term shift, but is not a tool for catching the very start of a new trend.

5.2 Faster Crossover Signals

Shorter-period crossovers — such as a 9-period EMA crossing a 21-period EMA — react much faster than the Golden/Death Cross, making them more useful for shorter-term trading, but also more prone to generating false signals (whipsaws) during choppy, sideways markets.

6. Choosing the Right Period

Period	Common Use
9–20 periods	Short-term trend and momentum; popular for intraday and swing trading
50 periods	Medium-term trend; widely watched as dynamic support/resistance in an active trend
100 periods	A less common but useful middle ground between the 50 and 200
200 periods	The dominant, longer-term trend; among the most widely watched levels by institutional investors

7. Moving Average Ribbon — Multiple MAs Together

Plotting several moving averages of different periods on the same chart creates a 'ribbon' effect, which can reveal trend strength at a glance without needing to read each individual line separately.

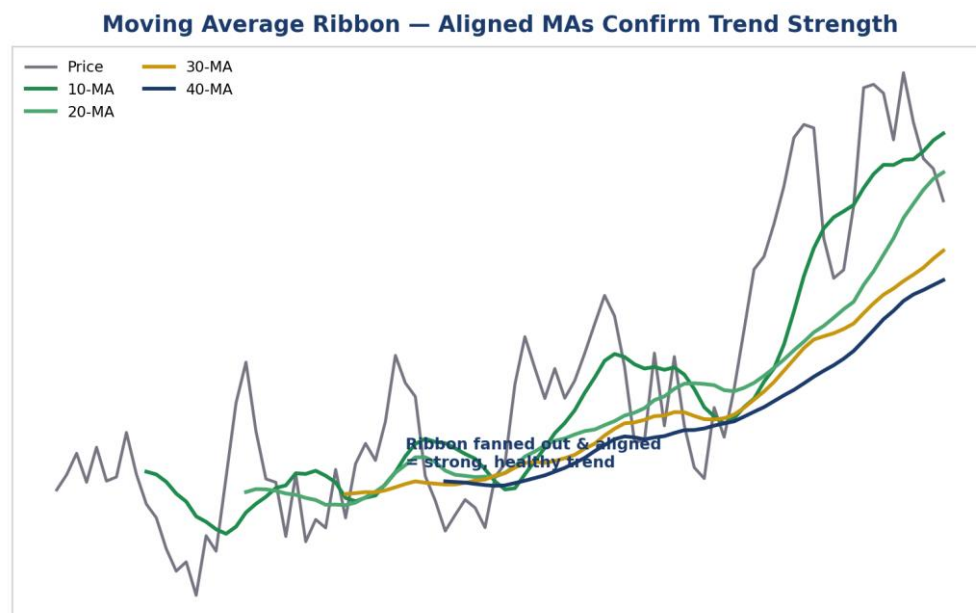


Fig 7.1 — A moving average ribbon: when multiple MAs fan out in the same order and direction, it confirms a strong, healthy trend.

When all the moving averages are neatly stacked in order (shortest period on top in an uptrend, or on the bottom in a downtrend) and fanning outward, this indicates a strong, well-established trend with good separation between timeframes. When the ribbon compresses and the lines tangle together, it often signals a period of consolidation or indecision.

8. Common Mistakes

- Using a moving average as a precise, exact price level: Like support and resistance, an MA is better treated as a zone rather than an exact number to the rupee.
- Chasing every short-term crossover: Trading every 9/21 EMA crossover in a choppy, sideways market, resulting in frequent false signals and unnecessary losses.
- Treating the Golden/Death Cross as a precise entry signal: Expecting to catch the very start of a trend from this lagging, longer-term signal, rather than treating it as later confirmation.

- Ignoring the broader market context: Trading MA crossovers on an individual stock without checking the alignment (or conflict) with the broader index trend.
- Using the same MA settings for every stock and every timeframe: Not adjusting the period to fit the specific volatility and behaviour of what you're actually trading.

9. Quick Reference — Moving Average Cheat Sheet

Concept	Key Point
SMA	Equal weight to all periods; smoother, slightly slower to react
EMA	More weight to recent prices; faster to react, used in MACD
Trend Identification	Price above rising MA = uptrend; below falling MA = downtrend
Dynamic Support/Resistance	Price often pulls back to and bounces off a widely watched MA in a trend
Golden Cross	50-MA crosses above 200-MA — bullish, longer-term signal
Death Cross	50-MA crosses below 200-MA — bearish, longer-term signal
MA Ribbon	Multiple MAs together; fanned and aligned = strong trend, tangled = consolidation

10. Chapter Summary

Here is everything you learned in this chapter in one concise recap:

- A moving average smooths price into a single line by averaging recent periods, making the underlying trend easier to see — at the cost of always lagging slightly behind current price.
- SMA weighs all periods equally and is smoother; EMA weighs recent prices more heavily and reacts faster.
- Moving averages help identify trend direction and act as dynamic support/resistance during an active trend.
- A Golden Cross (50-MA above 200-MA) is a widely followed bullish signal; a Death Cross (50-MA below 200-MA) is the bearish equivalent — both are lagging, longer-term confirmation signals.
- A moving average ribbon — several MAs plotted together — reveals trend strength: fanned and aligned MAs confirm a strong trend, while a tangled ribbon suggests consolidation.
- The right period depends on your timeframe and goal — shorter periods for short-term trading, longer periods (50/100/200) for the dominant, longer-term trend.